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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/679,880

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David Delgado

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07/27/2005

Patrick S. Yoder  
FLETCHER YODER  
P.O. Box 692289  
Houston, TX 77269-2289

EXAMINER

KERNS, KEVIN P

ART UNIT

PAPER NUMBER

1725

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/679,880	<b>Applicant(s)</b> DELGADO, DAVID	
	<b>Examiner</b> Kevin P. Kerns	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 and 35-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 and 35-42 is/are rejected.
- 7) ☒ Claim(s) 4,10,14,18,21,36,37 and 39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*18*

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I (claims 1-27 and 35-42) in the reply filed on June 23, 2005 is acknowledged. The applicant has cancelled non-elected claims 28-34.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "94" and "96" (see paragraph [0025]). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because reference number "64" in the central region of the torch in Figure 7 should be changed to "96" (to denote a "tube support member"). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required

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in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

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disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this instance, all five instances of use of the legal terms "comprise" and "comprising" should be changed to "include" and "including", respectively.

5. The disclosure is objected to because of the following informalities: in paragraph [0004], 2<sup>nd</sup> line, replace "head" with "heat" at the end of this line. Appropriate correction is required.

### ***Claim Objections***

6. Claims 4, 10, 14, 18, 21, 36, 37, and 39 are objected to because of the following informalities: in claim 4, last line, "second" should be replaced with "first" before "biasing" for agreement with claim 1. In claim 10, 6<sup>th</sup> line, delete "from a", which has been used twice consecutively. In claim 14, last line, replace "spring" with "coil" after "third" to obtain proper antecedent basis. In claim 18, 5<sup>th</sup> line, add "support system" after "tripod" to obtain proper antecedent basis. In claim 21, last line, it is believed that "second" should be changed to "third" before "spring". In claim 36, 2<sup>nd</sup> line, replace "36" with "35". In claim 37, 2<sup>nd</sup> line, replace "spring" with "coil" after "first" for agreement with "a first coil" in this claim. In claim 39, last line, replace "second" with "third" before "coil" for agreement with "a third coil" in this claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 5, 7, 9, and 35-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the first coiled wire". There is insufficient antecedent basis for this limitation in the claim.

With regard to claim 5, it is unclear what structure the "flexible tube" would be, as heat shrink tubing 78 and electrically insulating material 84 would both be considered as flexible tubes.

With regard to claim 35, the limitation "each coil of the plurality of coils is displaced relative to the other coils in the plurality of coils" is unclear, as it appears as though displacement of the plurality of coils would influence all the coils at once, rather than individual "relative" displacement.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

10. Claims 1-3, 18-21, and 35-39 are rejected under 35 U.S.C. 102(b) and/or 102(a) (insofar as definite without a specific date of the prior art, and in view of the 35 USC 112, 2<sup>nd</sup> paragraph rejections of claims 35-39) as being anticipated by the applicant's admitted prior art (specification; paragraph [0003]).

The applicant's admitted prior art includes the following: "Welding implements have been developed to enable the torch to have a degree of flexibility so that the electrode may be positioned relative to a user's hand. In a liquid-cooled torch, the flexibility is achieved by using a series of coiled tubes to secure the torch head to the torch. A shield gas is conveyed through the interior of one of the tubes. Additional tubes are used to convey cooling liquid to and from the torch head. The tubes are coiled around each other and may be flexed to reposition the torch head." This admitted prior art disclosure includes a flexible welding implement that comprises a torch head operable to couple electricity to a welding electrode disposed therein; a gas supply tube; cooling fluid supply and return tubes; and a plurality of biasing members (in the form of a series of coiled tubes, or springs, flexibly coiled around each other) that are operable to flexibly couple the (inflexible and/or uncoiled portions) of the gas supply and cooling fluid supply and return tubes to the torch head, while also serving as a tripod support system, in the form of three springs/coils that are flexibly secured to the torch head (specification; paragraph [0003]).

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11. Claims 1-3, 10, 11, 13-25, and 35-41 (insofar as definite in view of the 35 USC 112, 2<sup>nd</sup> paragraph rejections of claims 35-41) are rejected under 35 U.S.C. 102(b) as being anticipated by Keller et al. (US 4,145,595).

Keller et al. disclose a flexible gas-shielded arc-welding torch, in which the torch includes an attached handle portion 11; a torch head (torch barrel 12) operable to couple electricity to a welding electrode 13 disposed therein; a cooling fluid supply tube, in the form of a pressurized gas from a gas source via connector 27, operable to convey the cooling fluid to the torch head 12; and a first biasing member (bendable conductive helix 25 that provides gas and current), in which the helix 25 is operable to flexibly couple the cooling fluid supply tube to the torch head 12 (abstract; column 2, lines 41-68; column 3, lines 1-25 and 48-68; column 4, line 1 through column 5, line 27; and Figures 1-5). Because the helix is embedded in and cushioned by an elastomeric material (serving as a tube support member), it is also feasible to make a double helix (forming a plurality of biasing members) of tubular wire when it is necessary to supply a cooling liquid having both a flow inlet (supply line) and a flow outlet (return line) to the torch, the combination of which would serve as a tripod support system, in the form of three springs/coils that are flexibly secured to the torch head (column 5, lines 19-27; and Figures 4 and 5).

12. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Rehrig (US 5,403,987).



Rehrig discloses a flexible gas-shielded welding torch, in which the torch includes a torch head (12,16) operable to couple electricity to a welding electrode 18 disposed therein; a cooling fluid supply tube, in the form of a pressurized gas from a gas source via connector 50, operable to convey the cooling fluid to the torch head (12,16); and a first biasing member (bendable metal helix 46 that provides gas and current), in which the helix 46 is operable to flexibly couple the cooling fluid supply tube to the torch head 12,16 (abstract; column 3, lines 7-53; column 4, lines 4-68; column 5, lines 1-68; column 6, lines 1-46; and Figures 1-3).

13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kleppen, Jr. (US 3,703,622).

Kleppen, Jr. discloses a flexible gas-shielded arc welding torch, in which the torch includes a torch head 10 operable to couple electricity to a welding electrode 12 disposed therein; a cooling fluid supply tube, in the form of a gas from conduit 20, operable to convey the cooling fluid to the torch head 10; and a first biasing member (helical gas and current conductive element 30), in which the helical element 30 is operable to flexibly couple the cooling fluid supply tube to the torch head 10 (abstract; column 1, lines 23-55 and 64-67; column 2, lines 1-67; column 3, lines 1-18; and Figures 1-3).

14. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Delgado et al. (US 6,855,905).

Delgado et al. disclose a flexible welding torch having a restraining member, in which the welding torch further includes a torch head 32 operable to couple electricity to a welding electrode 24 disposed therein; a cooling fluid supply tube, in the form of a gas from cylinder 26, operable to convey the cooling fluid to the torch head 32; and a first biasing member (coil assembly 36), in which the coil 40 of the coil assembly 36 is operable to flexibly couple the cooling fluid supply tube to the torch head 32 (abstract; column 2, lines 2-24 and 60-67; column 3, lines 1-67; column 4, lines 1-61; and Figures 1-4).

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

### ***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over either the applicant's admitted prior art (specification; paragraph [0003]) or Keller et al. (US 4,145,595) in view of Delgado et al. (US 6,855,905).

The applicant's admitted prior art and Keller et al. individually disclose the elements of claims 1-3. Neither the applicant's admitted prior art nor Keller et al. specifically discloses the coupling of tubes via the plurality of biasing members.

However, Delgado et al. disclose a flexible welding torch having a restraining member, in which the welding torch further includes a torch head 32 operable to couple electricity to a welding electrode 24 disposed therein; a cooling fluid supply tube, in the form of a gas from cylinder 26, operable to convey the cooling fluid to the torch head 32; a first biasing member (coil assembly 36), in which the coil 40 of the coil assembly 36 is operable to flexibly couple the cooling fluid supply tube to the torch head 32; a flexible tube 38 disposed over the coil assembly 36; and coupling members (42,44) of the coil assembly 36, which are operable to couple tubes between the torch head and the gas and coolant supply, as well as coolant return, for the purpose of providing flexibility while limiting relative displacement of the coupling members (abstract; column 2, lines 2-24 and 60-67; column 3, lines 1-67; column 4, lines 1-61; and Figures 1-4).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify either of the flexible welding torches disclosed individually by the applicant's admitted prior art and Keller et al., by coupling the tubes via the biasing members, as taught by Delgado et al., in order to provide flexibility while

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limiting relative displacement of the coupling members (Delgado et al.; abstract; and column 2, lines 6-24).

17. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US 4,145,595) in view of Rehrig (US 5,403,987).

Keller et al. disclose the elements of claims 10 and 11. Keller et al. do not specifically disclose the use of heat shrink tubing for the flexible tube.

However, Rehrig discloses a flexible gas-shielded welding torch, in which the torch includes a torch head (12,16) operable to couple electricity to a welding electrode 18 disposed therein; a cooling fluid supply tube, in the form of a pressurized gas from a gas source via connector 50, operable to convey the cooling fluid to the torch head (12,16); a first biasing member (bendable metal helix 46 that provides gas and current), in which the helix 46 is operable to flexibly couple the cooling fluid supply tube to the torch head (12,16); and heat-resistant sealing tape 52 in the form of a heat shrinkable pliable sleeve, in which the heat shrink sleeve is advantageous for providing isolation and insulation to the metal helix (abstract; column 3, lines 7-53; column 4, lines 4-68; column 5, lines 1-68; column 6, lines 1-46; and Figures 1-3).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the flexible welding torch disclosed by Keller et al., by using heat shrink tubing for the flexible tube, as taught by Rehrig, in order to provide isolation and insulation to the metal helix (Rehrig; abstract; and column 6, lines 37-46).

18. Claims 26, 27, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US 4,145,595) in view of Willgoths et al. (US 3,999,033).

Keller et al. disclose the elements of claims 18, 25, 35, 40 and 41. Keller et al. do not disclose the use of wires braided together as a deformable support member.

However, Willgoths et al. disclose an arc welding torch having a flexible wire guide assembly, in which the assembly includes helically wound flexible wires braided together as the deformable support member, which is advantageous for providing a readily flexible wire guide assembly capable of universal adjustment without kinking and flattening during bending, thus having improved strength (abstract; column 2, lines 10-47 and 62-68; column 3, line 1 through column 5, line 13; and Figures 1-3).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the flexible welding torch disclosed by Keller et al., by using wires that are braided together as a deformable support member, as taught by Willgoths et al., in order to provide a readily flexible wire guide assembly capable of universal adjustment without kinking and flattening during bending, thus having improved strength (Willgoths et al.; column 2, lines 43-47).

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Gilmore, Gatfield, and Sarkissian references are also cited in PTO-892.

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20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin P. Kerns *Kevin Kerns 7/24/05*  
Primary Examiner  
Art Unit 1725

*KPK*

kpk  
July 24, 2005